

Setup Instructions

Without NAT

1. Pre-load the directory server with values.

```
public static void test (DirectoryServerListen dirServer) {
    ArrayList<Chunk> toAdd = new ArrayList<>();
    toAdd.add(new Chunk(new FileEntry( filename: "vid1.3gpp", fileSize: 400000, chunkSize: 200000), chunkNumber: 1)); //Chunk one
    toAdd.add(new Chunk(new FileEntry( filename: "vid1.3gpp", fileSize: 400000, chunkSize: 200000), chunkNumber: 2)); //Chunk two
    dirServer.update(new Peer( hostname: "host@127.0.0.1", publicIP: "127.0.0.1", publicPort: 4567, privateIP: "127.0.0.1", privatePort: 4567), toAdd);
    //File details has to be that of the peer that has that particular file
}
```

In DirectoryServerListen.java, locate this method called test. Change the filename to the name of the file that you intend to use for testing. Also change the filesize and chunksize appropriately. As we are testing without NAT, we can ignore the public fields including hostname. Change the private ip to the party who has the desired file. For the port, change it to the the sending party's port that he is using for Listener.java, the default value is 3001.

2. Enter the ip address of your wireless lan adapter Wi-fi

```
CustomPeer temp = getPublicIPnPort( ip: "172.25.102.118", RECV);
publicIP = temp.getIP();
publicPort = temp.getPort();
```

In P2PClient.java, enter it in the field ip.

3. Start the STUN server in a public domain

Start the STUN server in a public domain and note down the IP of where this server is hosted on.

```
private static CustomPeer getPublicIPnPort(String ip, int port) {
    try {
        String relayServerHostName = "178.128.118.155"; // STUN server's IP
        int relayServerPort = 5002; // STUN server port
        Socket clientSocket = new Socket();
        clientSocket.bind(new InetSocketAddress(ip, port)); // Relay port is the port we need to use
        clientSocket.connect(new InetSocketAddress( hostname: "178.128.118.155", relayServerPort));

        PrintWriter requestWriter = new PrintWriter(clientSocket.getOutputStream(), autoFlush: true);
        BufferedReader recvin = new BufferedReader(new InputStreamReader(clientSocket.getInputStream()));

        String response = recvin.readLine();
        String[] splitResponse = response.split( regex: "=");
        publicIP = InetAddress.getByName(splitResponse[0].substring(0)).getHostAddress();
        publicPort = Integer.parseInt(splitResponse[1]);

        System.out.println("Private IP is: " + ip + " Private port is: " + port);
        System.out.println("Public IP obtained is: " + publicIP + " Public port obtained is: " + publicPort);
        clientSocket.close();
    } catch (Exception e) {
        e.printStackTrace();
    }
}
```

In the method getPublicIPnPort() in P2PClient.java, update the ip address at clientSocket.connect(.....) to the ip address of where the STUN server is located.

4. Edit relay parameters

```
// Open persistent connection to relay server
relayConnect = new Socket( host: "178.128.118.155", port: 5001);
PrintWriter out_2 = new PrintWriter(relayConnect.getOutputStream(), autoFlush: true);
```

In P2PClient.java, edit the ip here to the ip of where the STUN server is hosted on.

5. Start the directory server by running DirectoryServerListen.java, note down the ip address of where it is hosted.

6. Start P2PClient.java and enter in the ip & port of the directory server when prompted. The default port of the directory server where it is listening for connections is 7777.

Note

The file to send has to be in the same folder as P2PClient.java